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Subject: Press: Wash Post - What to know before you spray your lawn with pesticides...

What to know before you spray your lawn with pesticides
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Washington Post - Online, The

This is the time of year when pesticides get sprayed on lawns, parks and golf courses. Though the goal may be to make these green spaces more pleasant places to play -- fewer bugs, fewer weeds -- these treatments may not be as safe as you assume.Most p...

Link: http://www.washingtonpost.com/national/health-science/what-to-know-before-you-spray-your-lawn-with-pesticides/2014/07/07/77d719a2-f63c-11e3-a606-946fd632f9f1_story.html

Outlet Full Name: Washington Post - Online, The
News Text: This is the time of year when pesticides get sprayed on lawns, parks and golf courses. Though the goal may be to make these green spaces more pleasant places to play — fewer bugs, fewer weeds — these treatments may not be as safe as you assume.

Most people are “not aware of the hazards that the unthinking use of pesticides poses to their children,” says Philip Landrigan, dean for global health and a professor of pediatrics at the Mount Sinai School of Medicine in New York. Pesticides include herbicides to kill weeds and insecticides such as those sprayed to manage cockroaches and other pests.

Pound for pound, children receive much higher exposures to these chemicals than adults do, just through normal daily activity, Landrigan says. Because children are growing quickly, “they take into their bodies more of the pesticides that are in the food, water and air,” he says. They also roll around in the grass and put their fingers in their mouths, which greatly increases exposure.

Researchers are learning a great deal about how vulnerable children's brains are to pesticides during fetal and early childhood development. “These delicate developmental processes are easily disrupted by very small doses of toxic chemicals that would be virtually harmless for an adult,” Landrigan says.

States and local jurisdictions play a major role in regulating the use of chemicals on lawns. The active ingredient most widely used on residential lawns in the United States is a chemical mixture called 2,4-dichloro--phenoxyacetic acid, or 2,4-D, which is sold in differing formulations under a variety of trade names. Another common herbicide is glyphosate. Studies of occupational exposure to agricultural pesticides (including 2,4-D and glyphosate) have found a positive correlation with certain cancers.

The Environmental Protection Agency approves pesticides based on their intended use, but there are many uncertainties regarding how much exposure is safe and how mixtures of chemicals act together, says Gary Ginsberg, a public health toxicologist and an assistant clinical professor at the University of Connecticut. Many states and counties require that signs be placed on turf that has been treated.

Maryland, for instance, requires commercial applicators to post signs following the spraying of pesticides on lawns and other landscapes but does not require homeowners to do the same.

Unfortunately, flags generally do not give people adequate warning, says Ginsberg, author of “What's Toxic, What's Not.” And many people ignore them, he says.

What's more, there is no scientific standard for how long one should stay off a lawn after it is treated. Many companies that use these chemicals warn that people should stay away from sprayed surfaces for six to 24 hours. Yet a 2013 studyexamining the levels of lawn pesticides in the urine of dogs found that herbicides persisted on lawn surfaces for at least 48 hours after spraying. “If you're trying to get rid of the bulk of the exposure, you want to be off of treated area] for at least two days, and I would say more like three,” Ginsberg says.

It is not just direct exposure to sprayed areas that presents a concern. “There's some inevitable transfer into the home or the neighbor's home from the use on the lawn,” Ginsberg says. Some pesticides waft in through vents and windows during and after spraying; people and dogs also track residue inside. A 2001 study found that a week after lawn treatment, 2,4-D could be detected on all indoor air surfaces, including tabletops and windowsills. The team estimated that indoor exposure to 2,4-D for young children was about 10 times higher during the week after lawn application than it was in the week before the lawn was treated.

But some experts don't see the harm in these chemicals. David Shaw, a professor of weed science at Mississippi State University in Starkville, says that as long as applicators follow the directions found on product warning labels, the herbicides are safe. For some products, that may require staying off the lawn for only an hour or two until the product is dry, Shaw says. He also contends that these widely used herbicides such as glyphosate are safe because they work on enzyme systems found in plants, not animals.

Such advice does not satisfy some experts. “Just because it's dried doesn't mean it's not transferable,” Ginsberg says. And even if the herbicide dries, “it may mist later, or there may be dew in the morning.” And he notes that even dried chemicals such as lead and pesticides leave residues on hands and clothes.

In an e-mail, EPA spokeswoman Cathy Milbourn said that based on the agency's “assessment of the large databases on 2,4-D and glyphosate, we have determined that it is safe for children to play on treated lawns after sprays have dried.”

All approved pesticides must undergo reevaluation for safety every 15 years. Shaw notes that the EPA's approval process includes extensive testing on the acute and chronic toxicity of these chemicals, on their carcinogenicity and on the chemicals' persistence in the environment. The EPA expects to complete its preliminary risk assessment for 2,4-D in 2018 and for glyphosate in 2015.

Jay Feldman, executive director of Beyond Pesticides, a nonprofit advocacy group based in Washington, points out that there are simply too many uncertainties: “We are so far removed from developing an adequate assessment of what the real effect of these chemicals are, given mixtures, given synergy, given different vulnerability or preexisting conditions that people have. There's a complexity associated with broadcasting any of these toxic chemicals in the environment that make it extremely difficult to get the full story.”